

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A radial-hinge mechanism, comprising:
an even number of at least eight elongated ~~spokes~~ members substantially equal in length and interwoven around and substantially tangent to a generally circular inner-aperture wherewith the elongated members emanate from in a sequentially overlapping spiral manner on both sides of the mechanism, wherein opposite ends of each of the ~~spokes~~ members are connected to the ends of different ones of the ~~spokes~~ members providing a fully interconnected assembly with a variable propensity for one of pivoting open and closed around a substantially circular hinge-core, and wherein each connected pair of the ~~spokes~~ members form a protrusion with a full set of the protrusions defining an outer circumference of peripheral points with alternate ones of the peripheral points lying in one of two parallel planes.
2. (currently amended) The mechanism of claim 1, wherein the assembly is based upon a two-dimensional geometric design derived from a circle of ~~peripheral points~~ connected by chords into a regular radial pattern, ~~with the pattern further reconciled into~~ resembling a radially-symmetrical criss-crossing of the spokes star.
3. (currently amended) The mechanism of claim 2~~1~~, wherein the ~~spokes~~ members are at least one of rigid, semi-rigid and elastic.
4. (currently amended) The mechanism of claim 3, wherein each of the ~~spokes~~ members are made of at least one of plastic, fiberglass, wood and metal.
5. (original) The mechanism of claim 4, wherein the connections are achieved by at least one of connectors, fusion, welding and gluing.

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 3

6. (currently amended) The mechanism of claim 5, wherein the connections are substantially secured by ~~spoke-end~~ connectors to connect one ~~spoke-end~~ end of one member to one end of another ~~spoke-end~~ member.

7. (withdrawn - currently amended) The mechanism of claim 6, wherein the ~~spoke-end~~ connectors are ~~single port receptacles designed to hold together ends of two of the spokes~~ members are substantially straight, cylindrical, cross-sectionally consistent, and thereby constituting a plurality of spokes.

8. (withdrawn - currently amended) The mechanism of claim 7, wherein the ~~spoke-ends~~ of the members are each angle-cut to meet substantially flush at the connections.

9. (currently amended) The mechanism of claim ~~6~~ 7, wherein the ~~spoke-end~~ connectors are dual-port receptacles each designed to hold the ends of two spokes.

10. (original) The mechanism of claim 9, wherein the dual-port receptacles each include a cap and a dual-holed grommet-insert sized to accommodate the spoke-ends.

Cancel claim 11

12. (currently amended) The mechanism of claim ~~11~~ 10, wherein the spokes further include channels formed around spoke circumferences near ends of the spokes, and wherein the channels interface with the grommet holes and are capable of turning within the holes.

13. (currently amended) The mechanism of claim 6, wherein the ~~spoke-end~~ connectors are variably joined with similar ~~two-point-end~~ connectors to provide a ~~four-point-inter-hinge~~ connector connectors for stacking two or more of the radial-hinge mechanisms.

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 4

14. (currently amended) The mechanism of claim 13, wherein the ~~spoke~~-end-connectors are joined with a line-hinge to provide an equilateral and stabilized interconnection between two or more of the radial-hinge mechanisms.

15. (currently amended - withdrawn) The mechanism of claim 1, wherein the elongated ~~spokes~~members are of variable lengths that do not substantially alter the radial-hinge action of the mechanism.

16. (currently amended) The mechanism of claim 1, wherein the ~~spokes~~ members include interconnections made at locations along a length of the ~~spokes~~ members.

17. (withdrawn) The mechanism of claim 1, wherein the mechanism includes two singular forms with each of the forms fully inter-connected with one-half of the total peripheral points, and wherein each one-half of the peripheral points are in an opposite but substantially parallel plane.

18. (withdrawn) The mechanism of claim 17, wherein the forms are disk-shaped and substantially similar to each other.

19. (currently amended - withdrawn) The mechanism of claim ~~17~~, 1, wherein ~~one or both of the forms further include depressed channels to act as slide tracks for the peripheral points to run in to direct and regulate radial movement during opening and closing of the mechanism~~the peripheral points lying in one of the two parallel planes are variably attached to an adjoining form to variably move on tracks or within channels of the form to guide the mechanism's movement in opening and closing.

20. (withdrawn) The mechanism of claim 1, wherein the connections are fixed with a double c-clip device with a point-hinge swivel.

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 5

21. (withdrawn) The mechanism of claim 1, wherein the inner-aperture is transversely occupied by a shaft and the mechanism interfaces with the shaft to one of clutch, brake and grip the shaft.

22. (currently amended - withdrawn) The mechanism of claim 1, wherein one or more of the protrusions are formed as bends in one of the members ~~spokes~~.

23. (currently amended - withdrawn) The mechanism of claim 1, wherein the assembly includes a cover that one of fully and partially covers the members ~~spokes~~ to create a radial-hinge-based chamber.

24. (withdrawn) The mechanism of claim 23, wherein the cover opens and closes with a bellows action while acting in tandem with movements of the mechanism.

25. (withdrawn) The mechanism of claim 23, wherein the cover accommodates two or more stacked ones of the radial-hinge mechanisms.

26. (withdrawn) The mechanism of claim 25, wherein the cover opens and closes with a bellows action while acting synchronously with the movements of stacked ones of the radial-hinge mechanisms.

27. (withdrawn) The mechanism of claim 1, wherein the assembly further includes direct attachments of at least one of a blade and a prop for achieving at least one of fluid movement, cutting and drilling.

28. (original) The mechanism of claim 1, wherein the hinge-core further includes a constraining band to modify movement of the mechanism.

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 6

29. (original) The mechanism of claim 28, wherein the band is elastic.

30. (original) The mechanism of claim 28, wherein the band releases at a predetermined threshold of applied force.

31. (currently amended) A radial-hinge mechanism ~~based upon a geometric design~~ derived from the geometry of a circle of delineations points interconnected by chords end-to-end in ~~regular patterns~~ based upon consistent arc-counts with the ~~delineations points~~ also locating initial defining peripheral points of the seminal design of the mechanism, the mechanism comprising:

one or more elongated members interwoven and interconnected in a radially-symmetrical pattern around a substantially circular inner-aperture providing to provide a resultant assembly with a fully integrated framework with a variable propensity for pivoting open upon a generally circular hinge-core made up of an even number of at least eight hinge crossmembers emanating from the inner-aperture on both sides of the mechanism in a sequentially overlapping spiral fashion; and

one or more interconnections interconnecting the one or more elongated members into the continuous loop monolithic structure the mechanism results in.

32. (currently amended) The mechanism of claim 31, wherein the fully-integrated framework is ~~defined~~ represented by a two-dimensional pattern.

33. (currently amended) The mechanism of claim 31, wherein the elongated member or members are one of rigid, semi-rigid and elastic.

34. (original) The mechanism of claim 33, wherein each of the elongated members is made of at least one of a plastic, a fiberglass, a wood and a metal.

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 7

35. (original) The mechanism of claim 34, wherein the interconnections are achieved by at least one of connectors, fusion, welding and gluing.

36. (currently amended) The mechanism of claim 35, wherein the interconnections are ~~two-point interconnections that interconnect ends of two of the elongated members~~ located at peripheral points.

37. (currently amended) The mechanism of claim 36, wherein the ~~two-point interconnections are located at peripheral points, and wherein the elongated members are~~ substantially straight, cylindrical, equal in length, cross-sectionally consistent, and thereby constituting a plurality of spokes of substantially equal length.

38. (currently amended) ~~The~~ A radial-hinge mechanism of claim 37 based upon a geometric design derived from a circle of delineations interconnected by chords end-to-end in regular patterns with the delineations also locating initial peripheral points of the mechanism, the mechanism comprising:

one or more elongated members interwoven and interconnected around a substantially circular inner-aperture to provide a resultant assembly with a fully-integrated framework with a variable propensity for pivoting open upon a generally circular hinge-core made up of an even number of at least eight hinge crossmembers ; and

one or more interconnections interconnecting the one or more elongated members,

wherein the elongated member are one of rigid, semi-rigid and elastic,

wherein each of the elongated members is made of at least one of a plastic, a fiberglass, a wood and a metal,

wherein the interconnections are achieved by at least one of connectors, fusion, welding and gluing,

wherein the interconnections are two-point interconnections that interconnect ends of

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 8

two of the elongated members,

wherein the two-point interconnections are located at peripheral points, and wherein the elongated members are a plurality of spokes of substantially equal length,

wherein the peripheral points map out two circles, with each of the circles occupying separate spaced parallel planes, and wherein one-half of the peripheral points are in one of the planes and the other one-half of the peripheral points are in the remaining one of the planes.

39. (currently amended) The mechanism of claim ~~38~~37, wherein the interconnections are confirmed with ~~two-point~~ spoke-end connectors, each connecting one spoke to another.

40. (original) The mechanism of claim 39, wherein the spoke-end-connectors are dual-port receptacles designed to receive and retain ends of two of the spokes.

41. (currently amended) The mechanism of claim ~~40~~ 39, wherein ~~the spoke-end connectors~~ are dual-port receptacles ~~are comprised of caps with dual-holed grommet inserts.~~

Cancel claim 42.

43. (currently amended) The mechanism of claim 41, wherein the ~~grommet holes have a diameter less than that of the end of the spokes~~ spokes further include channels formed around spoke circumferences near ends of the spokes, and wherein the channels interface with the grommet holes and are capable of turning within the holes.

44. (currently amended) The mechanism of claim 39, wherein the ~~two-point~~ spoke-end connectors are each variably joined with other two-point-spoke-end- connectors to provide a four-point-resulting in inter-hinge-connector connectors utilized in the stacking of two or more of the radial-hinge mechanisms.

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 9

45. (currently amended) The mechanism of claim 44, wherein the connecting method to variably join spoke-end-connectors ~~are joined~~ to realize the stacking of two or more radial-hinge mechanisms is accomplished with a-coil-springs.

46. (withdrawn) The mechanism of claim 35, wherein the interconnections interconnect elongated members at more than two points at a time.

47. (withdrawn) The mechanism of claim 46, wherein the interconnections are accomplished by two singular forms with each of the forms fully interconnected with one-half of the peripheral points, and wherein each one-half of the peripheral points are in opposite but substantially parallel planes.

48. (withdrawn) The mechanism of claim 47, wherein the forms are substantially similar to each other.

49. (withdrawn) The mechanism of claim 47, wherein the forms are disk-shaped.

50. (withdrawn - currently amended) The mechanism of claim ~~47~~ 35, wherein one ~~or both~~ half of the forms ~~further include depressed channels to act as slide tracks for peripheral points of the resultant mechanism are variably attached to an adjoining form to run-variably move within channels in the form or along tracks on the form to direct and regulate radial-guide the mechanism's movement during in opening and closing of the mechanism.~~

51. (withdrawn) The mechanism of claim 31, wherein the interconnections are made with a double c-clip device with a point-hinge swivel.

52. (withdrawn) The mechanism of claim 31, wherein the inner-aperture is transversely

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 10

occupied by a shaft and the mechanism interfaces with the shaft to one of clutch, brake and grip the shaft.

53. (withdrawn) The mechanism of claim 31, wherein the framework is fully or partially enclosed by a cover to create a radial-hinge-based chamber.

54. (withdrawn) The mechanism of claim 53, wherein the cover opens and closes with a bellows action while acting in tandem with movements of the mechanism.

55. (withdrawn) The mechanism of claim 53, wherein the cover accommodates two or more stacked ones of the radial-hinge mechanisms.

56. (withdrawn) The mechanism of claim 55, wherein the cover opens and closes with a bellows action, while acting in tandem with movements of the stacked mechanisms.

57. (withdrawn) The mechanism of claim 31, wherein the framework further includes direct attachments of at least one of a blade and a prop for achieving at least one of fluid movement, cutting and drilling.

58. (currently amended) A radial-hinge The mechanism of claim 31 based upon a geometric design derived from a circle of delineations interconnected by chords end-to-end in regular patterns with the delineations also locating initial peripheral points of the mechanism, the mechanism comprising:

one or more elongated members interwoven and interconnected around a substantially circular inner-aperture to provide a resultant assembly with a fully-integrated framework with a variable propensity for pivoting open upon a generally circular hinge-core made up of an even number of at least eight hinge crossmembers; and

one or more interconnections interconnecting the one or more elongated members,

Applicant : Glenn R. Rouse
Appln. No. : 10/623,787
Page : 11

wherein the hinge-core further includes a constraining band to one of restrict and enhance movement of the mechanism.

59. (original) The mechanism of claim 58, wherein the band is elastic.

60. (original) The mechanism of claim 58, wherein the band releases at a predetermined threshold of applied force.

61. (currently amended) A radial-hinge mechanism ~~with interwoven of~~ elongated members ~~interconnected around a generally circular emanating on both sides of the mechanism from the inner-aperture and in a sequentially overlapping spiral arrangement~~ providing a monolithic, closed-loop, star-shaped framework with a variable propensity for pivoting open upon its a generally circular hinge-core, the mechanism comprising:

sixteen semi-rigid elongated ~~spokes~~ members substantially equal in length and cross-section, interconnected one to another at sixteen peripheral points and based on a pattern with ~~five-seven~~ arcs per chord with a ratio of approximately ~~seventy-five~~ sixty-to-one for the length of the ~~spokes~~ members in comparison to a-the common diameter of the cross-section of the ~~spokes~~ substantially cylindrical members; and

sixteen ~~two-point spoke-end~~ connectors to fully interconnect ~~the plurality of spokes~~ one to another the sixteen elongated members of the mechanism.

62. (new) The mechanism of claim 37, wherein the spokes include interconnections made at locations along a length of the spokes.